

Visibility, Regional Haze & VISTAS

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National Visibility Goal

- Clean Air Act Amendments of 1977
- Remedy existing impairment and prevent future impairment resulting from man-made emissions in federal Class I areas
 - 156 National Parks & Wilderness Areas
- Instructed EPA to issue “Reasonable Progress” regulations

EPA's 1980 Visibility Regulations

- Addressed “reasonable attributable” visibility at a specific Class I area
 - Single source
 - Small group of sources
- EPA deferred action on regional haze
 - Until improved monitoring & modeling techniques developed
 - Better understanding of pollutants causing haze

EPA's 1999 Regional Haze Regulations

- State develops implementation plan (SIP) if it has emissions which “may reasonably be anticipated to cause or contribute to any impairment of visibility” in any Class I area
- Encouraged regional planning
 - Additional time for technical assessment and strategy development

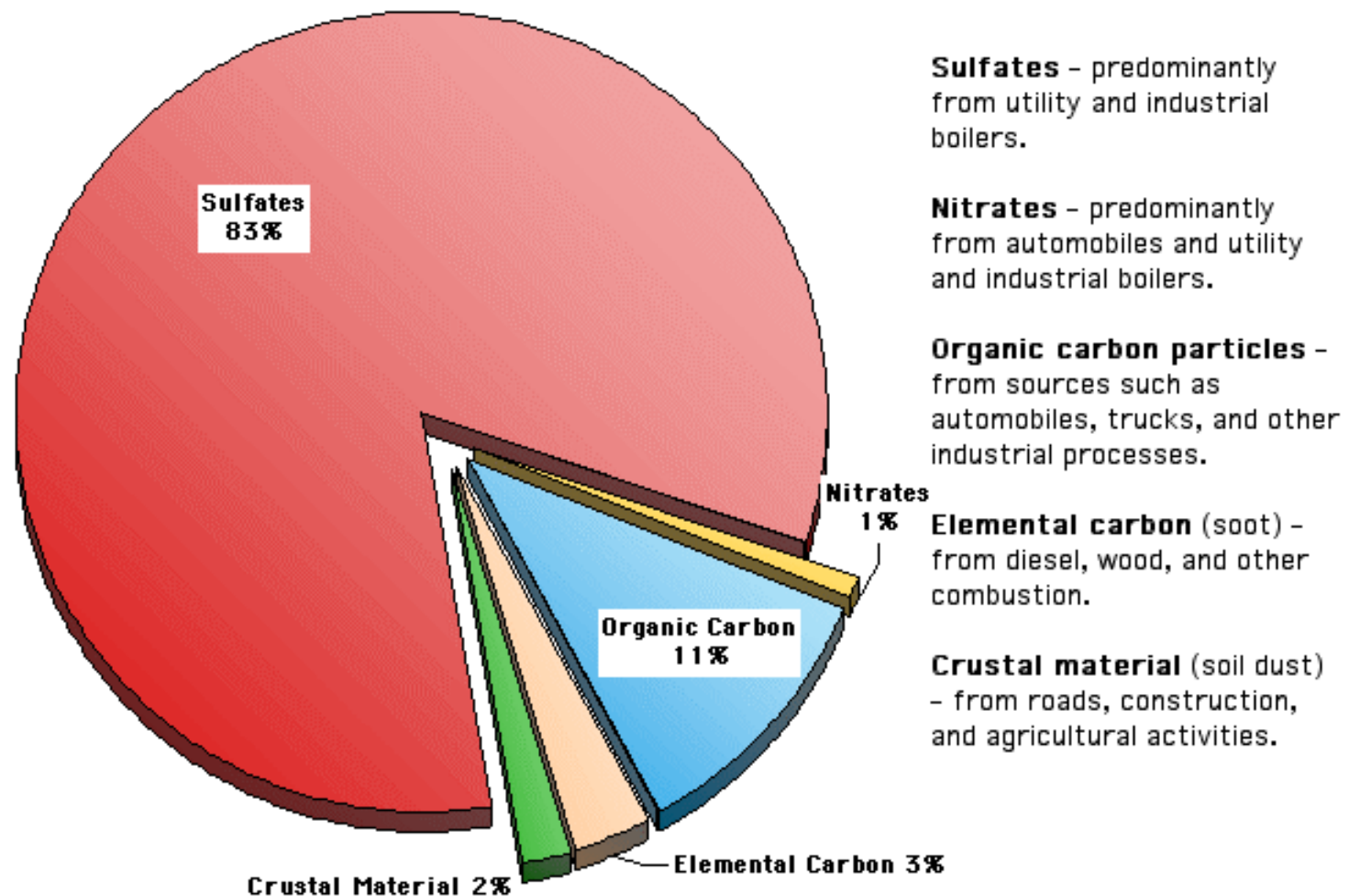
Common Metrics of Haze

- Visual range, light extinction coefficient, deciview – all mathematically related
- Deciview – uniform perceived incremental changes in haziness

Deciviews	Range (miles)	Extinction (Mm-1)
0	243	10
5	147	17
10	90	27
15	54	45
20	33	74
25	20	121
30	12	202
35	7	332

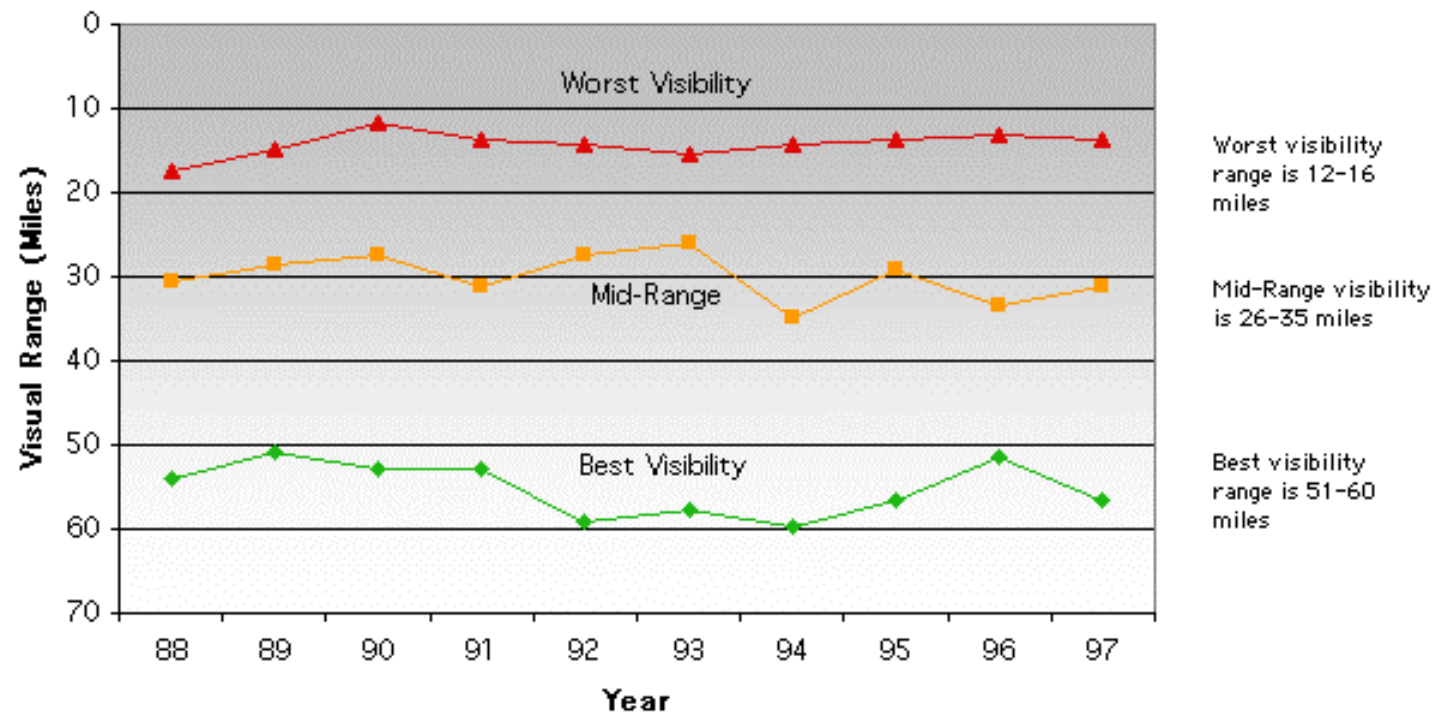
Great Smoky Mountains National Park, Tennessee/North Carolina

Pollutants that contributed to reduced visibility on the worst days in 1997



Great Smoky Mountains National Park, Tennessee/North Carolina

Air pollution impacts on visibility



The visual range or distance you can see at Great Smoky Mountains National Park ranged from 12 to 60 miles in the last 10 years. The differences in visual range are due to the amount of air pollution in the form of haze that impairs visibility.

Commitment SIP

- Due ~2005
- Description of regional planning process
- A showing that emissions from State contribute to impairment in Class I areas outside State
- List of BART-eligible sources
- Commitment to submit control strategy SIP no later than December 31, 2008

Control Strategy SIP

- Due no later than December 31, 2008
- Reasonable Progress goals
- Calculation of baseline and natural visibility conditions
- Long-term strategy
- Monitoring strategy
- BART

Reasonable Progress Goals

- Goal for each Class I area in deciviews
- Must analyze and consider rate of improvement that would reach natural conditions by 2064
- Must improve worst days, maintain best days
- Demonstrate whether this rate is reasonable
 - Costs, time to comply, energy & nonair impacts
- Take into account emission reductions to be achieved under other CAA programs
 - Goal cannot be less than expected improvement from these programs

Long-Term Strategy

- Address stationary (major and minor), mobile and area sources
- Must include measures needed to address State's contribution toward reasonable progress goals for Class I areas both within and outside State
 - Must consult with other States & Federal Land Managers

Best Available Retrofit Technology

BART-Eligible Sources

- Major Stationary Source
- 26 Categories
- Placed into operation: 1962 – 1977
- Potential to emit 250 tons of any pollutant reasonably anticipated to contribute to regional haze in any Class I area (NH_3 , NO_x , PM, SO_2 , VOCs)



Source Categories Eligible for BART

- Fossil-fuel fired steam electric plants of more than 250 million Btu/hr heat input
- Coal cleaning plants (with thermal dryers)
- Kraft pulp mills
- Portland Cement plants
- Primary zinc smelters
- Iron and steel mills
- Primary aluminum ore reduction plants
- Primary copper smelters
- Municipal incinerators (? 250 tons of refuse/day)
- Hydrofluoric, sulfuric, and nitric acid plants

Source Categories Eligible for BART (cont'd)

- Petroleum refineries
- Lime plants
- Phosphate rock processing plants
- Coke oven batteries
- Sulfur recovery plants
- Carbon black plants (furnace plants)
- Primary lead smelters
- Fuel conversion plants
- Sintering plants
- Secondary metal production plants
- Chemical process plants

Source Categories Eligible for BART (cont'd)

- Fossil-fuel boilers (or combination thereof) totaling more than 250 million Btu/hr heat input
- Petroleum storage and transfer facilities with a total storage capacity ? 300K barrels
- Taconite ore processing facilities
- Glass fiber processing plants
- Charcoal production facilities

Determining BART Sources

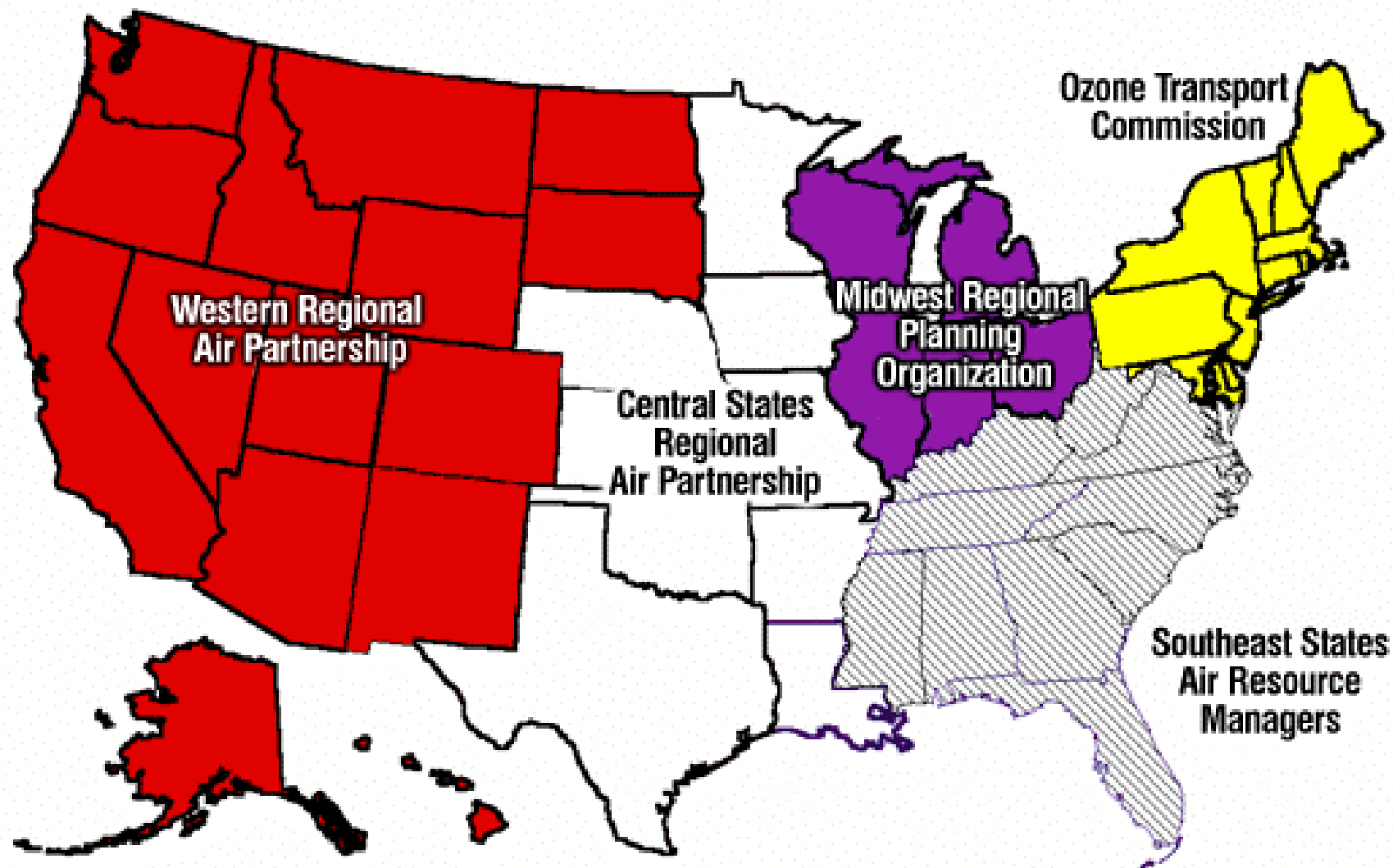
- Cost of controls
- Impacts on energy availability
- Remaining useful life of equipment
- Controls cause environmental damage?
- Cumulative visibility improvement

BART (cont.)

Two “Control” Approaches

- Source Specific
- Trading program or alternative measures to achieve greater reasonable progress than source-specific BART

Regional Planning Organizations



VISTAS



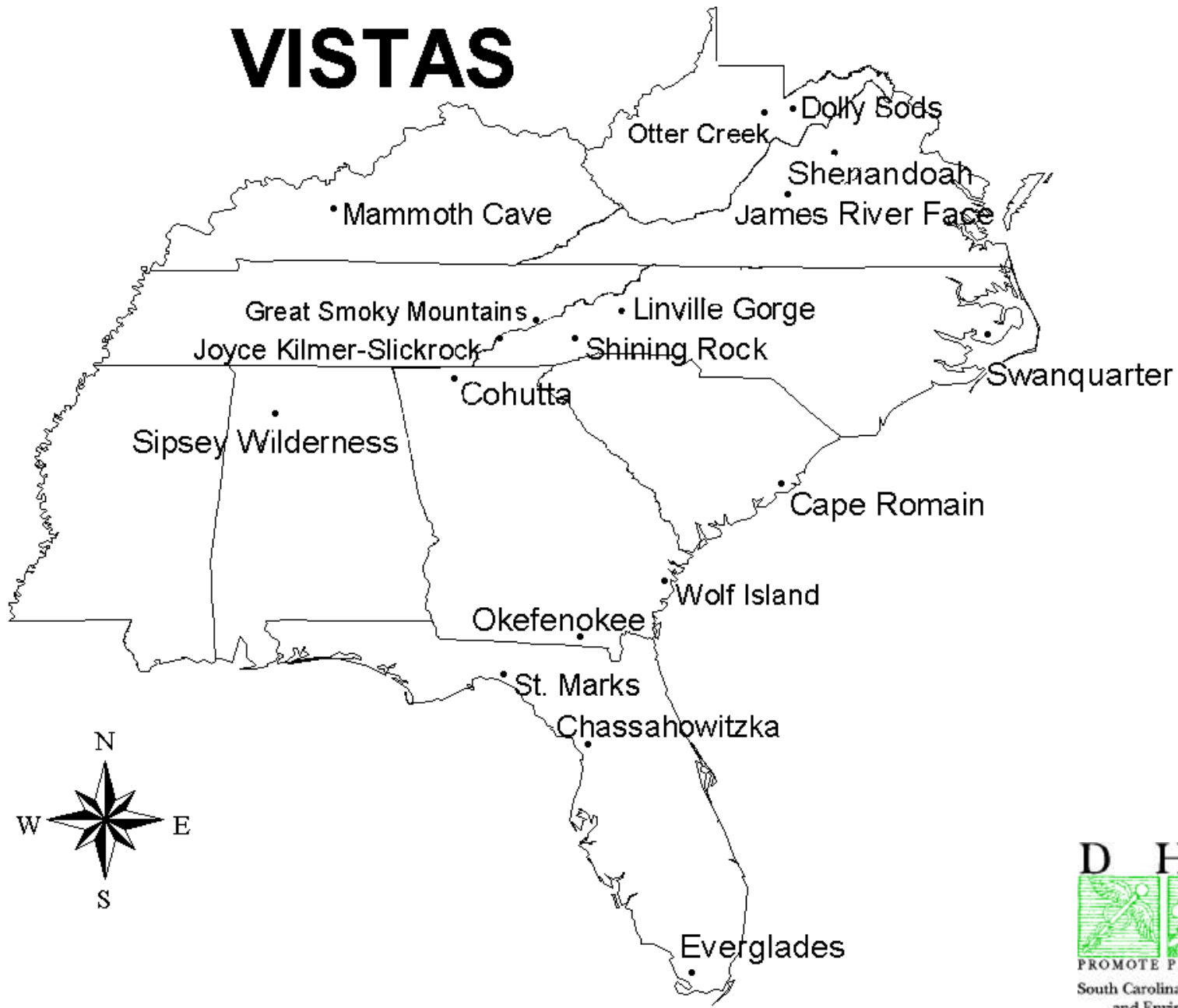
What is VISTAS?

Visibility Improvement –
State and Tribal Association of the
Southeast

VISTAS

- Collaborative effort established to initiate and coordinate activities associated with the management of regional haze, visibility and other air quality issues in the Southeast.
- No independent regulatory authority and no authority to direct or establish State or Tribal law or policy.

VISTAS



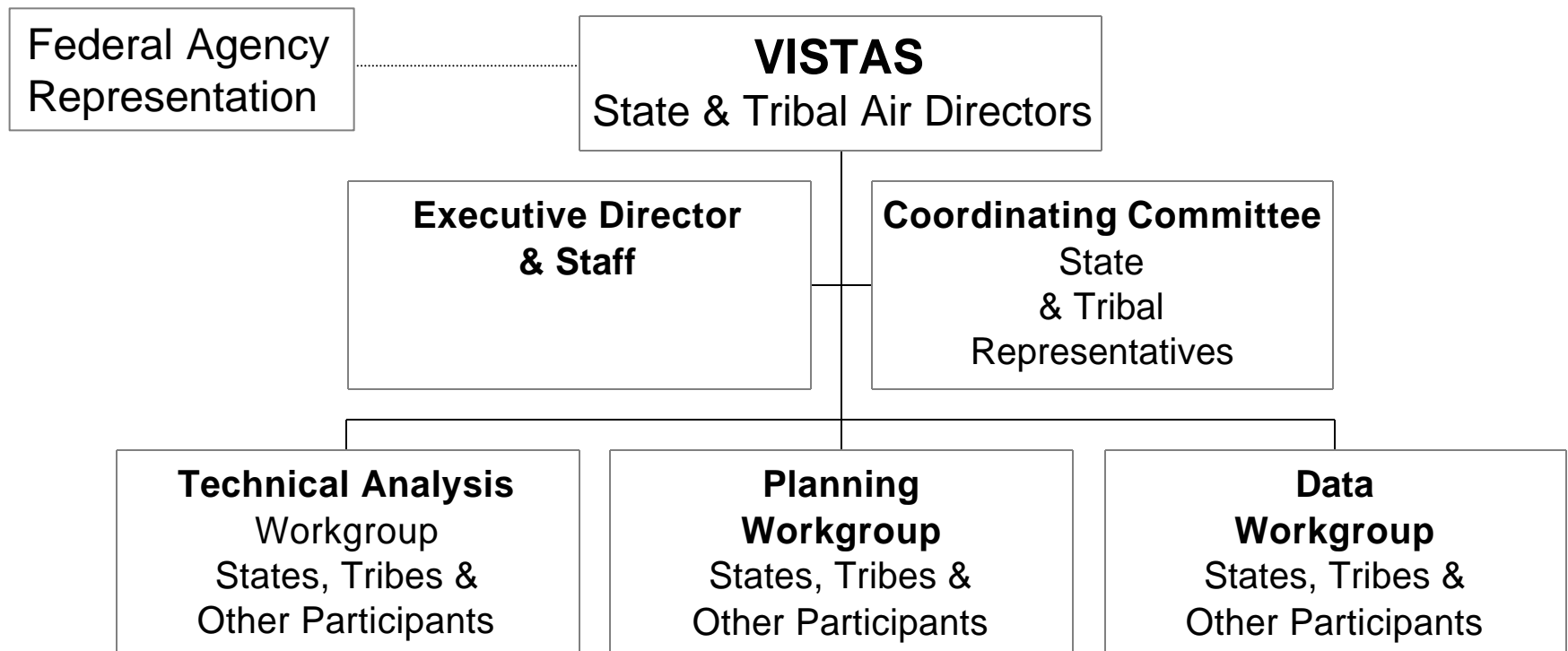
Participating States

- Alabama
- Florida
- Georgia
- Kentucky
- Mississippi
- North Carolina
- South Carolina
- Tennessee
- Virginia
- West Virginia

Tribes in VISTAS Region

- Eastern Band of Cherokee Indians
- Catawba Indian Nation
- Miccosukee Tribe of Indians of Florida
- Mississippi Band of Choctaw Indians
- Seminole Indian Tribe of Florida
- Poarch Band of Creek Indians

VISTAS Organizational Structure



State & Tribal Air Directors - STAD

- State Air Director (or designee)
- Tribes
 - The Eastern Band of the Cherokee Indians
- Local Air Programs
 - President of METRO 4 or designee
- Only participants with voting privileges
- “Policy oversight committee”

VISTAS Executive Staff

- Executive Director/Coordinator
- Oversee VISTAS activities
- Technical & administrative staff
 - Hired with concurrence of STAD
- Administer day-to-day activities & support VISTAS

VISTAS Coordinating Committee

- States & Tribes
- Appointed by the STAD
- Chaired by Vice-Chair of STAD
- GA (Vice-Chair of STAD), FL(Data), SC & NC (Planning), WV(at large), Eastern Band of Cherokee Indians (Tribe)

Federal Representatives

- Federal Land Managers
 - Department of Interior (2)
 - Department of Agriculture (1)
- U.S. Environmental Protection Agency
- Non-voting
- Advisory panel

Other Participants

- Industry
- Environmental Groups
- Academia
- Other interested parties

VISTAS Workgroups

- Planning
 - Brock Nicholson (NC) & Renee Shealy (SC)
- Data (Monitoring)
 - Dotty Diltz (FL)
- Technical Analysis (Emissions Inventory and Modeling)
 - Sheila Holman (NC)

VISTAS Workgroups

- “Where work gets done”
- Open to participants/interested individuals
- Monthly conference calls/meetings as needed
- “Workgroup Guidelines”

Funding

- Grants from Congress through EPA
- STAD may seek funding from other sources

Current Work Efforts

- Data Analysis Request for Proposals
 - Collection and analysis of existing data
 - Address data gaps
 - Proposals due 11/16/01
 - Contract award ~12/31/01
- Technical Expert(s) Request for Proposals
 - Emissions inventory, mathematical simulation modeling using computers, meteorological modeling and atmospheric chemistry
 - Draft currently under review

Work Efforts (cont.)

- PM2.5 Emissions Inventory RFP
 - Comprehensive 2002 EI
 - Primary and precursor emissions
 - Support modeling and assessment of speciated PM2.5
- BART Information Request
 - “Phase I”
 - All stationary sources with emission units
 - 26 categories / PTE 250 tons per year
 - From complete list will begin to identify “BART-eligible” sources

Inter-Regional & National Coordination

- *The Assessment of Emissions Inventory Needs for Regional Haze Plans* report
- Prioritizing emissions needs
- Consistent data and analyses processes
- Common data repository

VISTAS Website

www.VISTAS-SESARM.org